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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/730,188	12/05/2000	Kazushi Takanashi	33152	7999
116	7590	04/05/2005		
PEARNE & GORDON LLP 1801 EAST 9TH STREET SUITE 1200 CLEVELAND, OH 44114-3108			EXAMINER ZHENG, EVA Y	
			ART UNIT	PAPER NUMBER
			2634	

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/730,188	TAKANASHI ET AL.	
	Examiner	Art Unit	
	Eva Yi Zheng	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Examiner's Objection of multiple dependent claim to claims 5, 6 and 7 has been withdrawn.
2. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant admitted prior art (AAPA) in view of Choi (5,999,349).
 - a) Regarding claims 1-4 and 8-22, AAPA disclose a waveform equalizer comprising:
 - an equalizing filter unit including a delay circuit with a tap;
 - a discriminator which decodes an output signal of said equalizing filter unit; and
 - tap arrangement control means which controls a tap arrangement of said equalizing filter unit (Fig. 15; Page 1, L16 - Page 2, L8).AAPA discloses all of the subject matter as described above except for specifically teaching of a tap coefficient monitoring unit.

Choi, in the same field of endeavor, teaches a Coefficient Updating Circuit (270 in Fig. 2) coupled with a Data and Coefficient Value Analyzing Device (300 in Fig. 2), which is shown in details in Fig. 3, to provide new tap coefficients using the predetermined initial tap coefficients from the selection circuit (350 in Fig. 3; Col 4, L60-Col 8, L23).

By providing new tap coefficients would optimize the tap arrangement. AAPA teaches a conventional waveform equalizer. Choi teaches a waveform equalizer with a coefficient updating circuit for improving waveform equalizer of capable to converging tap coefficients to be used in equalizing a reproduced information signal to their optimum values. Therefore, it is an advantage and would have been obvious to one of ordinary skill in the art to implement the coefficient updating circuit taught by Choi in the equalizer of AAPA to effectively equalizing signal by employing tap coefficients obtained by using a data and coefficient value analyzing technique.

b) Regarding claim 5, Choi discloses a waveform equalizer as claimed in any one of the preceding claims 1, 2, and 3, wherein said tap coefficient monitoring unit (270 in Fig. 2) monitor only a specific tap, and when dispersion of a change amount of said tap coefficient exceeds a certain threshold value, said tap coefficient monitoring unit instructs that the tap arrangement of said equalizing filter unit is changed so as to restart the equalization of the reception signal (as shown in Fig. 2; Col 4, L 45-89).

c) Regarding claims 6 and 7, AAPA disclose all the subject matter described above except for the specific teaching of an impulse response predicting device.

Choi discloses a waveform equalizer further comprising an impulse response predicting device (290 in Fig. 2) for predicting an impulse response of a transfer path; and wherein said tap arrangement control means changes the tap arrangement of said equalizing filter unit in such a manner that said tap arrangement becomes optimum with respect to an impulse response predicted by both the equalized output of the discriminator and a condition of the reception signal (as shown in Fig.2; Col 2, L 26-Col 3, L39).

Therefore, it is an advantage and would have been obvious to one of ordinary skill in the art to implement an impulse response predicting device taught by Choi in the equalizer of AAPA to effectively equalizing signal by employing tap coefficients obtained by using a data and coefficient value analyzing technique.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eva Yi Zheng whose telephone number is 703-305-8699. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-879-9306.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Art Unit: 2634

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Eva Yi Zheng
Examiner
Art Unit 2634

March 28, 2005



**SHUWANG LIU
PRIMARY EXAMINER**